UNITED STATES
v.
ELODYMAE ZWANG
DARRELL ZWANG

IBLA 71-189 Decided June 1, 1981

Appeals from the decision of Administrative Law Judge Graydon E. Holt dismissing the Government's contest complaint in part and rejecting contestees desert land entry patent applications in part. R(LA)-096387, R(LA)-096388.

Affirmed.

1. Desert Land Entry: Cultivation and Reclamation -- Desert Land Entry: Water Supply

Where after weighing all the evidence presented at a hearing in a Government contest of two desert land entries, the Administrative Law Judge determines that only 480 acres of land can be reasonably successfully cultivated from the common water supply developed during the life of the entries, that determination will be upheld when it is supported by the record.

APPEARANCES: Ted R. Frame, Esq., Coalinga, California, for contestees; Robert D. Conover, Esq., for contestant.

OPINION BY ADMINISTRATIVE JUDGE HENRIQUES

These contests are before the Board on remand from the United States District Court for the Central Division of California for consideration of the adequacy of the irrigation system and crop plans supporting the desert land entries of contestees Elodymae Zwang and Darrell Zwang. This issue was raised in joint appeals by the Zwangs and the Bureau of Land Management (BLM), from the January 7, 1971, decision of Administrative Law Judge Graydon E. Holt following the

original hearing in these contests in 1970. The Board's subsequent decision, United States v. Zwang, 26 IBLA 41 (1976), did not resolve the appeals from Judge Holt's decision as to this issue. 1/

The parties have indicated that they find that there is no need for a further hearing in this matter. Contest [Illegible Word] have submitted a supplemental statement of reasons and contestant has responded to it.

The history of these desert land entries [Illegible Word] repeating. On January 6, 1955, the predecessors and assignors [Illegible Word] the Zwangs entered land in sec. 19, T. 4 S., R. 16 E., San Bernardino meridian, California, under the provisions of the Desert Land Act, as amended, 43 U.S.C. § 321-339 (1976). The Los Angeles Land Office approved the assignment of entry R(LA)-096387 to Elodymae Zwang and entry R(LA)-096388 to Darrell Zwang by decisions dated December 22, 1958. Elodymae Zwang's entry embraced lots 1 and 2 of the SW 1/4 and the SE 1/4, sec. 19, T. 4 S., R. 16 E., San Bernardino meridian, containing 320 acres. Darrell Zwang's entry embraced lots 1 and 2 of the NW 1/4, and the NE 1/4, sec. 19 of the same township, also containing 320 acres. The entries were suspended, and then extended and the Zwangs filed final proof on May 17, 1961.

After an initial remand to the land office by BLM's Office of Appeals and Hearings, on April 3, 1963, BLM held that the Zwangs' proof demonstrated a well with the capacity to irrigate only 80 acres of the 320 acres in each entry and approved entry R(LA)-096387 as to lot 2 of the SW 1/4 and entry R(LA)-096388 as to lot 2 of the NW 1/4. The entries were canceled as to the remaining lands on the ground that 10 gallons of water per minute (gpm) per acre were required to successfully irrigate, that a typical cropping program would need a minimum of 4800 gpm to irrigate the irrigable land on the Zwang entries, and that a test of the Zwangs' pump on February 13, 1963, showed that it could

1/ This decision held in part that:

"In the case of a desert land entry contestee who violates the 320-acre limitation on holding desert land because he is the 'purchaser' of two other 320-acre entries under an illegal executory contract to convey after patent, all entries held by the 'purchaser' are subject to cancellation, and the Department may proceed by way of contest against the 'purchaser's' own entry, which was not a subject of the illegal contract." The Zwangs appealed and the district court granted their motion for summary judgment reversing the Board's decision. Zwang v. Andrus, Civ. No. 77-1431-RF (C.D. Calif. Aug. 16, 1979). The Government appealed to the Ninth Circuit Court of Appeals. However, the Government subsequently filed a motion to dismiss and on February 7, 1980, the appeal was dismissed.

produce only 1,284 gpm or enough water to irrigate only 172 acres. The Zwangs appealed to the BLM Director challenging the BLM premise that 10 gpm per acre were needed for successful agricultural production. BLM's Office of Appeals and Hearings denied the Zwangs' request for a hearing and affirmed the decision as to the insufficient capacity of the Zwangs' well but remanded the cases to afford the Zwangs an opportunity to apply for an extension of time in order to enlarge their well capacity. The Zwangs appealed. The Assistant Solicitor for Land Appeals set aside the BLM decision and remanded the case. He held that the Zwangs' assertion that their well could adequately irrigate more than 160 acres created an issue of fact that required notice and a hearing under the Department's contest procedures. Elodymae Zwang, A-30201 (Feb. 3, 1965).

BLM filed contest complaints on February 14, 1969, 2/ against the 240 acres of each entry not approved in BLM's 1963 decision. 3/ The complaints charged: "(a) The water supply developed for the entry is insufficient for the irrigation of all the irrigable land embraced therein," and "(b) An irrigation system adequate to irrigate all of the irrigable land embraced in the entry has not been constructed." Contestees denied these allegations and a hearing was held on January 14 through 16, 1970, 4/ in Los Angeles, California.

2/ In the interim the Zwangs had demanded issuance of patents for both entries under section 7 of the Act of March 3, 1891, as amended, 43 U.S.C. § 1165 (1970). BLM rejected the demand and the Zwangs filed suit for a writ of mandamas compelling issuance of the patents. The suit was dismissed and the dismissal affirmed in Zwang v. Udall, 371 F.2d 634 (9th Cir. 1967). See United States v. Zwang, 26 IBLA 41 n.7 (1976).

3/ For entry R(LA)-096387, BLM contested lot 1 of the SW 1/4 and the SE 1/4, sec. 19, T. 4 S., R. 16 E., San Bernardino meridian. For entry R(LA)-096388, BLM contested lot 1 of the NW 1/4 and the NE 1/4, sec. 19 of the same township.

4/ In late 1969, after the contests had been set for hearing, the Acting Regional Solicitor moved to stay the hearing until the Department completed an investigation into the possibility that the Zwangs had, by virtue of contracts entered into in 1961, violated the provisions of the Desert Land Act limiting to 320 acres the amount of land any one person could hold under the Act. 43 U.S.C. § 329 (1970). Judge Holt citing the Department's authority to initiate contest at any time prior to patent, denied the postponement motion and offered to hold the record open for a reasonable time to allow amendment of the complaints.

This issue was the subject of the Board's decision in United States v. Zwang, supra. See fn 1, supra.

The record of the hearing and the parties' briefs on appeal from Judge Holt's decision indicate that there is no dispute on the evidence as to the second charge. Contestees agreed that approximately 65 acres of the NE 1/4 of sec. 19 were not irrigable. In addition, evidence was undisputed that contestees had constructed an irrigation system capable of irrigating the remaining acreage. Therefore the focus of this appeal is the issue reflected by the first charge; that is, how many acres of the two entries can be adequately [Illegible Word] by the water supply developed by contestees during the life of the entries.

The standards to be applied to resolve this issue were discussed in United States v. Swallow, 74 I.D. 1 (1967), as follows:

> The statute is not too helpful. The only pertinent provision requires that the entryman file a plan "showing the mode of contemplated irrigation, and which plan shall be sufficient to thoroughly irrigate and reclaim said land, and prepare it to raise ordinary agricultural crops." Section 4, act of March 3, 1877, as added by sec. 2 of act of March 3, 1891, 26 Stat. 1096; 43 U.S.C. sec. 327 (1964).
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> In our earlier decision, we said, in speaking of the types of crops to be used in computing the acreage that could be serviced by the amount of water the entryman had developed, "The test is not whether certain crops can be produced on the land in question but whether those crops can be produced successfully in a normal reasonable agricultural production."
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> The principle underlying that criterion is equally applicable to deciding the multiple seasons of growth issue. We must ask, "How does the ordinary reasonable farmer acting solely upon agricultural considerations conduct his farming operations?" We must assume that the desert land law seeks to stimulate the reclamation of otherwise unproductive lands into ordinary economically feasible agricultural units. In other words, is the plan proposed by the entryman the one he would follow if he already owned the land and were seeking only the best return possible on his labor and expenditures? While, of course, there may not be unanimity among farmers similarly situated as to the best farming policy, we must assume uniformity of motive -- that is, economic gain.
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> If an entryman offers a farming plan composed of crops or growing seasons different from those of other like enterprises, he must be prepared to demonstrate its economic feasibility. He has, of course, four years to develop his entry and to show the practicability of his proposal.

> If at final proof he can show that he has operated under an economically remunerative plan, then, although he may have been an innovator, he has evidence of the practicability of his method.
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> If, however, he comes to final proof with only a theory to support his plans, and can offer neither his own experience nor that of other farmers in support, then he has a more difficult task. As we said in our earlier decision: "The determination of what acreage is irrigable from the systems installed by the appellants is not to be made with reference to an unorthodox or speculative crop plan or lack of plan which is completely out of step with prevailing or existing agricultural practices in the area."

74 I.D. at 4-5.

Judge Holt concluded that contestees' water supply was adequate to irrigate and successfully cultivate only 480 acres or 240 acres of each of the desert land entries. He dismissed the Government's complaints against the W 1/2 and the W 1/2 E 1/2 of each entry and rejected the contestees' patent applications for the E 1/2 E 1/2 of each entry. We find that Judge Holt's decision accurately sets out the evidence presented at the hearing. In reaching his decision, he necessarily had to weigh conflicting evidence presented by the witnesses of each side at the hearing. His discussion of the evidence which incorporates his conclusions on conflicting evidence is as follows:

> The parties agreed that a well at the west quarter corner produces 1,284 gallons per minute, that this amounts to 68.2 acre inches per day, that an 8-inch steel pipe extends northward from the well to the northwest corner of the entries, that the pipe also extends eastward from the well 1,320 feet, and that there are sufficient east-west and north-south ditches to carry water to each subdivision except approximately 65 acres in the northeast corner of the section (the pipes, ditches, proposed laterals, and the area too high for irrigation are shown on Exhibit X-5). Both parties based their computation of the amount of water consumed by the various crops on the Blaney-Criddle formula (described in Exhibits 11 and Q). This is a formula for converting a known consumptive use in a particular area to the consumptive use of the same crop in another area through the use of a coefficient. The coefficient is based on a comparison of the monthly temperature, latitude, growing period, and the monthly percentage of annual daytime hours. The coefficients appearing in published documents are often at variance (Ex. 11 and Q).

Various phrases relating to irrigation efficiency were used. Ditch efficiency relates to the amount of water lost in the ditches between the well headgate and the laterals. Field irrigation efficiency relates to the loss of water after leaving the ditches including deep percolation and runoff. Farm irrigation efficiency is the overall effectiveness of the irrigation system and includes both ditch and field efficiency (Tr. 198).

Also, the parties agreed that in addition to the land irrigated, an entryman was entitled to a reasonable area for buildings, roads, etc. The Government contended that 1/16th or approximately 6% (Tr. 35) of the land irrigated should be allowed for these purposes, and the contestees contended that 1/8th or 12-1/2% (Tr. 329) should be allowed. The amount of land used for these purposes is dependent on the type of crops grown. Grains or similar crops harvested by mechanical means require few field alleys or paths while vegetable or melon crops harvested by hand require alleys for equipment to reduce the cost of labor (See Ex. E-1 through E-6). In the Lyttle decision 5.5% was allowed and in the Swallow decision 7.5% was allowed for an average of 6.5%. This average appears reasonable and will be used here.

The Government's case in chief was presented through the testimony of Norman E. Elam a soil conservationist, employed by the U.S. Department of Agriculture. Mr. Elam prepared three cropping plans of which plan No. 3 was the most favorable for the contestees (Ex. 14). He selected four crops - grapes, beans, parsnips, and beets, which he felt would utilize the limited amount of water most efficiently. The holding capacity of the soil is 3.41 inches of water in the first 5 feet. Thus crops such as grapes with 5-foot root systems can utilize a greater percentage of water than crops with shallower roots. The total crop acreage under this plan is 273 acres + 6.5% for buildings and roads amount to 291 acres.

In determining the ditch loss Mr. Elam used .75 of a mile as the average length of the ditch to each 80-acre subdivision and concluded that at this distance the ditch loss would be 30%. This was based on a 3-hour test (Ex. 15) which showed a loss of 50%, but because of plugging he reduced this to 30%. He considered the field efficiency for grapes to be 60%, for beans 50%, and for parsnips and beets 40%. He testified that since the summers are too hot for seeds to germinate, he made no provision in his plans for a crop during the months of July, August, and September.

The chief witnesses for the contestees were Dale S. Harris and Glen Stoller. Both are graduate agronomists. Mr. Stoller prepared two cropping plans (Ex. R, S, and X-6). The area of conflict between the contestees' plans and the Government's plans related primarily to the farm efficiency of the irrigation system and to the feasibility of growing crops during the summer months.

Mr. Harris determined that the average length of the ditches for each of the 80-acre subdivision in the entries is .475 of a mile (Ex. K). This average is born out by the ditch plan for the entries (Ex. 14) 1/ On the adjoining Lyttle entries he tested the ditches which were similar to the ones on the Zwang entries over a 24-hour period and found that there was a 5% ditch loss in one half mile (Tr. 197). On the question of summer crops there was testimony that the soil in the area is cooled by pre-irrigation, and that sorghum grain, millet, broom corn, blackeyed beans, quar, sesbania, field corn, cotton, soybeans, and flax can be grown during the summer months (Tr. 200 and Ex. J). Many of these crops are described in the University of California Circular 464 on "Desert Agriculture" (Ex. D). * * * * * * * * * * *

Mr. Stoller commented on the Elam calculations on ditch loss and stated that there are a number of factors that cause plugging of the ditches such as silting and biological-type plugging due to growth of bacteria, algae, and various other micro-organisms (Tr. 280). He took Mr. Elam's ditch test (Ex. 15) and recomputed the loss of water during the third and final hour of the test over an average distance of .475 of a mile. His result was 15.7% ditch loss (Ex. P). Since Mr. Elam had adjusted his computed loss from 50% to 30% (a reduction of 40%) due to plugging, Mr. Stoller reduced his loss by the same percentage with a final result of 9.4% for ditch loss (Tr. 293). His conclusion was that an overall farm irrigation efficiency of 55% would be a conservative figure (Tr. 284). 2/

1/ The Elam plan effectively allows approximately the west one-half of both entries. If the length of the ditches for the subdivisions in this half were averaged the result would be .25 of a mile computed as follows: W-1/2 NW-1/4 = 0; E-1/2 NW-1/4 = 1/2; W-1/2 SW-1/4 = 1/4; and E-1/2 SW-1/4 = 1/4.

2/ This compares with Mr. Elam's farm irrigation efficiency on plan No. 3 of 42% for grapes (60% x 70%); 35% for beans, and 28% for parsnips and beets.

Mr. Stoller recomputed the Elam crop plan No. 3 by using 9.4% ditch loss; 15.7% ditch loss; and a 55% farm irrigation [efficiency]. To each computation he added 85 acres for a summer crop with the results of 439 acres, 428 acres and 472 acres respectively (Ex. T). The addition of 6.5% for buildings and roads would result in 468 acres, 456 acres, and 503 acres.

The preponderance of the evidence supports findings (1) that with preirrigation the soil can be cooled sufficiently to permit a summer crop; and (2) that if the water in the ditches was tested during a 24-hour period rather than 3 hours and the loss determined over a distance of .475 of a mile rather than .75 miles, the 30% ditch loss used by Mr. Elam would be reduced to less than 15%. 3/ A recomputation of Elam plan No. 3 using this percentage of ditch loss plus 80 acres for a summer crop plus 6.5% for buildings results in the allowance of two additional 80-acre subdivisions. This leaves the two 80-acre subdivisions along the east boundary. Since the NE-1/4 NE-1/4 cannot be irrigated, this 40-acre subdivision must be eliminated.

The remaining issue is whether the three 40-acre subdivisions on the east side of the entries can and will be irrigated with the existing water supply. The basis for the determination is whether an ordinary reasonable or prudent farmer who already owns the land acting solely upon agricultural considerations could and would utilize this portion of the entry in a yearly operation.

The two Stoller cropping plans were computed through the use of the partially conflicting coefficients appearing in the U.S. Department of Agriculture Bulletin No. 275 (Ex. Q) and the University of Arizona Bulletin No. 169 (Ex. 11). For each plan he used farm irrigation efficiencies of 45%; 50%; and 55% (Ex. R and S). The resulting acreage utilized ranged from a low of 495 acres to a high of 812 acres. Mr. Stoller's four crop plan is graphically illustrated on Exhibit X-6. Here 75 acres of wheat are grown on the W-1/2 NW-1/4 from January 1 through May 31; 75 acres of cantaloup on the E-1/2 NW-1/4 from April 1 through July 15; 82 acres of sesbania in the NE-1/4 from July 1 through August 31; and 263 acres of lettuce on most of the S-1/2 from September 15 through December 31. Under this plan the peak moisture requirement for each crop

3/ The average length of the ditches for the 80-acre subdivisions in the west three-quarters of the entries is .281 mile.

tops out before the next crop begins (Ex. U). According to this plan not more than 263 acres is in actual production at any one time.

Mr. Elam was recalled on rebuttal and discussed possible flaws in the Stoller cropping plans. The well produces 68.2 acre inches a day or 1023 acre inches in 15 days. Wheat in the last 15 days of April requires 5.85 inches of water a day (Ex. U and 11). At 45% efficiency 79 acres of wheat would require 1027 acre inches (5.85 [divided by] .45 = 13 x 79 = 1027). At 50% efficiency it would require 936 acre inches (Tr. 394). The requirement for 79 acres of cantaloup during the last two weeks of June would be only slightly less. The peak moisture use for lettuce is the first 15 days of December (1.76 acre inches). Using the same formula at 50% efficiency the requirement would be 925 acre inches (1.76 [divided by] 50% = 3.52 x 263 = 925 acre inches). In each case the Stoller plans require the maximum utilization of the water source with only a slight margin for error.

On the planting of lettuce Mr. Elam testified that the average temperature in September is 87.1 [degrees] and that lettuce seed will not germinate at 76 [degrees] or above. To grow lettuce at that time of year would require the running of water constantly to cool the soil (Tr. 393). His final objection to the Stoller plan was that the land is not used economically. Wheat is harvested in the latter part of May and sesbania is planted during the first of July and harvested in the latter part of August. During the time that sesbania is growing, all of the land, except the area allotted to cantaloup, is available. By the time lettuce is planted on September 15 there is no other growing crop. Any portion of the entries could be used.

These objections do successfully refute the Stoller plans in part. The least efficient subdivisions in the entries are the three 40-acre subdivisions in the E-1/2 E-1/2. Here the average length of the ditches is one mile or four times the average length of the ditches in the W- 1/2. It does not appear reasonable that a farmer who already owns the land and is seeking the best possible return would utilize these subdivisions when the same crops can be grown with a greater possibility of success on the W-1/2 and the W-1/2 E-1/2. Thus I find that while it might be theoretically possible to use these subdivisions they will not be irrigated and utilized in a farming operation.

Decision at 4-8.

In their statement of reasons on appeal, contestees note that the purpose of the desert land law is to encourage and promote reclamation by irrigation of arid public lands. They submit that they have met

their burden of proving by a preponderance of the evidence that all the irrigable portions of their entries can be farmed successfully in normal, reasonable agricultural production, the standard of United States v. Swallow, supra, with the established available water supply. They agree with Judge Holt that there are two areas of conflict in these contests: the farm efficiency of the irrigation system and the feasibility of growing crops in the summer. They argue that their irrigation system should be judged on maximum use of the water supply and urge that their crop rotation plans represent a reasonable, economic use of the land. They contend that the basis of Mr. Elam's testimony is deficient. Finally, they argue that the record supports a greater allowance for roads and buildings.

In its statement of reasons for appeal, the Government indicates that it finds the 6.5 percent road and building allowance to be fair and reasonable but argues that the evidence does not support a finding that more than 291 acres (273 acres under Elam's Plan No. 3 plus 6.5 percent) can be successfully cultivated. They reiterate their evidence that a summer crop cannot be planted and raised because there isn't sufficient water to keep the soil moist through the germination period. They also argue that Mr. Elam's 30 percent ditch loss calculation is correct and that the record does not support the use of only a .475 average ditch length because no allowance is therefore made for water loss from the laterals which must be considered when determining how much water will actually be available for use by the plants.

[1] It is evident that there are many crops that might be successfully grown on contestees' entries and that, by choosing crops with varying growing seasons and limiting crop acreage, a number of different crop rotation plans could be successfully implemented with appellants' water supply. The Government's witness, Mr. Elam, found that a maximum of 273 acres of the entries could be reasonably cultivated by planting certain crops having a high efficiency of water use. Contestees have demonstrated that, by planting low water consuming crops, additional acreage may be put into productive use. 5/

5/ We interject at this point several comments on contestees' supplemental statement of reasons to the Board in this appeal. Contestees urge that jojoba beans could be successfully grown on their entries and that since jojoba is a very low water consuming plant, the additional acreage rejected by Judge Holt could be successfully cultivated with the water supply on the entries. We have two responses. First and foremost, our decision in this appeal must be based on the factual record developed at the hearing. 43 CFR 4.24. Second, jojoba is a desert land species which naturally grows in the desert southwest without the need of irrigation. The commercial cultivation of the crop is a relatively recent phenomenon in the southwest and its economic feasibility has not been fully established. The water requirements of the plants and related capabilities of a tract of land to support a commercial crop of jojoba have not been adequately demonstrated. Therefore, jojoba has not yet been accepted as a proper crop for justifying desert land entries where the measured application of water is a requirement.

It is also evident from the record before us that there are a number of variables affecting the amount of water that is needed to grow certain crops on a given amount of land. These variables include the moisture holding capacity and water infiltration rate of the soil, climatic conditions, the efficiency of the crop itself, the efficiency of the irrigation system as a whole, and the skill of the irrigator. Some of these factors are more easily measured than others. Thus, an absolute determination of the level of water usage required for a particular crop at a given time of the year cannot be calculated; rather, it may only be estimated. A combined expression of some of these variables is the farm irrigation efficiency factor. We are not convinced by the evidence in the record that the overall efficiency factor used by any one of the witnesses was more correct. 6/ Each witness estimated farm efficiency based on his experience and research. Even small variations in efficiency directly affected the amount of acreage that may be farmed with a limited amount of water.

We agree with Judge Holt that contestees have satisfactorily demonstrated that summer crops may be raised given the availability of sufficient water under certain crop rotation plans. The testimony also supports a conclusion that a longer test period for water loss in the ditches would probably result in a lower ditch loss percentage, though no test was performed for a longer period on the entries at issue to establish an actual rate. In addition, we find that contestees have demonstrated that the prevailing practice does not include the length of laterals in a calculation of average ditch length and .475 feet is an appropriate factor to calculate ditch loss for the entries at issue. Nevertheless, we note that water loss from the laterals is an element of overall efficiency. Mr. Elam incorporated that element into his ditch loss calculation (Tr. 407). Contestees' witnesses, Mr. Stoller and Mr. Harris, both testified that water loss from laterals was figured into field efficiency for the purposes of their evaluations (Tr. 244, 282). Contestees have not shown in a manner comparable to the Government's evidence, how this factor affects their results and, therefore, Mr. Elam's ditch loss calculation in the context of his overall evaluation may not be completely rejected.

6/ In their statement of reasons, contestees' note that one of the Government's witnesses, Roy Davidson, the BLM area manager who made the final proof examination of their entries, used a 70 percent "irrigation efficiency" in preparing a graph for computing the minimum required pumping rate for a given acreage (Exh. A). The 70 percent irrigation efficiency figure was described as a published standard for the guidance of land examiners in 1962-63 (Tr. 38-39). Contestees argue that since this was a published standard at the time of their final proof, it should be used in calculating the allowable acreage for their entries and if used would result in the allowance of all irrigable land in the entries. We disagree. Contestees assume that the 70 percent figure equates to ditch efficiency. However, no where in the record is the 70 percent standard technically defined. As noted by Judge Holt there were several efficiency factors used by the witnesses in their computation.

The record also establishes that the land requirement for buildings and roads varies according to the kinds of crops planted. Although more than 6.5 percent of the cultivated acreage may be required for this purpose to adequately work vegetable crops, less may be required for grain crops. The evidence does not support a finding that Judge Holt erred in selecting the 6.5 percent figure. In any event, once he determined the amount of allowable acreage that he found supported by the evidence and added 6.5 percent of that acreage, the total acreage was rounded upwards to include an entire 40-acre subdivision. We feel that this additional acreage provides the flexibility needed for appellants to work the acreage allowed, whatever the crops selected.

The crop rotations presented by contestees may be technically sound if contestees' assumptions on the variables discussed previously bear out during actual planting and irrigating, but, as Judge Holt noted, their crop plans require the maximum utilization of the water source with only a slight margin of error. The purpose of the desert land law is the reclamation of arid lands. During the life of the entries at issue, contestees planted and irrigated only 40 acres of Sudan grass on each entry and this crop was plowed under to enrich the soil, not commercially marketed. We return to United States v. Swallow, supra at 6-7, wherein in similar circumstances the Assistant Solicitor stated:

> Of all the land in the four entries only 40 acres in each have been reclaimed through irrigation and cultivation. The remaining land is just as it was before entry. If the contestees are issued patents for all of their respective entries, they will, of course, own them in fee. As fee owners, then, they will undertake further development only in accordance with the same economic rules that govern the conduct of all reasonably prudent farmers. They will only grow crops which yield an economic return and will open up only that land which can be most profitably exploited.
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> After patent, an entryman assuredly would not devise a cropping plan based upon a combination of water available and crop water requirements calculated principally simply to permit the cultivation of the maximum acreage at his disposal. Therefore, if an entryman were to receive a patent for land he has not reclaimed before patent which he would not as a reasonable farmer reclaim after patent, in all likelihood such land would not be reclaimed. If this were to occur, the purpose of the desert land law would be flouted by the very act intended to reward compliance with the terms of the statute.

After thorough examination we conclude that the record supports Judge Holt's decision to allow 480 acres for the two desert entries. We are convinced that contestee can produce a reasonably good crop

on more than the 291 acres that the Government urges is the maximum for a 1,284 gallons per minute water supply. We are not convinced that the contestees' cropping plans using all the irrigable acreage in the entries will result in reasonably successful cultivation of the entire entry given the limited water supply and the conflicting evidence presented by the Government.

Therefore pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.

Douglas E. Henriques
Administrative Judge

We concur:

Bruce R. Harris
Administrative Judge

Edward W. Stuebing
Administrative Judge